

37. (NEW) A polynucleotide encoding a chimeric enzyme comprising:

- a) a localization signal of an alpha-1,3 galactosyl transferase enzyme;
- b) a catalytic domain of a fucosyl transferase that competes with the galactosyltransferase for substrate.

*okay*

38. (NEW) The polynucleotide of claim 36, wherein the fucosyl transferase is H-transferase or secretor-type alpha-1,2 fucosyl transferase.

39. (NEW) The polynucleotide of claim 37, wherein the fucosyl transferase is H-transferase or secretor-type alpha-1,2 fucosyl transferase.

*okay*

40. (NEW) The polynucleotide of claim 36, wherein the glycosyltransferase localization signal comprises a cytoplasmic domain of a glycosyltransferase.

41. (NEW) The polynucleotide of claim 37, wherein the localization signal comprises a cytoplasmic domain of a glycosyltransferase.

*not more narrow*

42. (NEW) The polynucleotide of claim 36, wherein the localization signal is (SEQ. ID. No. 11), MNVKGK (SEQ. ID. No. 12), or MVVKGK (SEQ. ID. No. 13).

*okay*

43. (NEW) The polynucleotide of claim 37, wherein the localization signal is MNVKGR (SEQ. ID. No. 11), MNVKGK (SEQ. ID. No. 12), or MVVKGK (SEQ. ID. No. 13).

*okay*

44. (NEW) A vector comprising the polynucleotide of claim 36.

45. (NEW) A vector comprising the polynucleotide of claim 37.

*okay*

46. (NEW) The vector of claim 44, wherein the fucosyl transferase is H-transferase or secretor-type alpha-1,2 fucosyl transferase.

47. (NEW) The vector of claim 45, wherein the fucosyl transferase is H-transferase or secretor-type alpha-1,2 fucosyl transferase.

okay

48. (NEW) A method for reducing an amount of gal-alpha- (1,3)- gal present on cells comprising:

- a) transducing the cells with a chimeric enzyme comprising
  - i) a glycosyltransferase localization signal directing localization of the chimeric enzyme to the Golgi; and
  - ii) a catalytic domain of a fucosyl transferase that competes with galactosyltransferase for substrate;
- b) expressing the chimeric enzyme in the cells, wherein the expression of the chimeric enzyme in the cells is effective to reduce the amount of gal-alpha- (1,3)- gal present on the cells.

49. (NEW) A method for reducing an amount of gal-alpha- (1,3)- gal present on cells comprising:

- a) transducing the cells with a chimeric enzyme comprising
  - i) a localization signal of an alpha- 1,3 galactosyl transferase enzyme; and
  - ii) a catalytic domain of a fucosyl transferase that competes with galactosyltransferase for substrate;
- b) expressing the chimeric enzyme in the cells, wherein the expression of the chimeric enzyme in the cells is effective to reduce the amount of gal-alpha- (1,3)- gal present on the cells.

50. (NEW) The method of claim 48, wherein the fucosyl transferase is H-transferase or secretor-type alpha-1,2 fucosyl transferase.

51. (NEW) The method of claim 49, wherein the fucosyl transferase is H-transferase or secretor-type alpha-1,2 fucosyl transferase.

52. (NEW) A method of claim 48, wherein said transforming is *ex vivo*.

53. (NEW) A method of claim 49, wherein said transforming is *ex vivo*.
54. (NEW) A method for reducing hyperacute rejection of transplanted porcine cells comprising transforming the cells with the polynucleotide of claim 36 prior to transplantation, wherein expression of the chimeric enzyme is effective to reduce gal-alpha- (1,3)- gal present on the cells.
55. (NEW) A method for reducing hyperacute rejection of transplanted porcine cells comprising transforming the cells with the polynucleotide of claim 37 prior to transplantation, wherein expression of the chimeric enzyme is effective to reduce gal-alpha- (1,3)- gal present on the cells.